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20030030 9 January 2003 (09.01.2003) FI(71) Applicant (for all designated States except US): ORION
CORPORATION [FI/FI]; Orionintie 1, FIN-02200 Espoo
(FI).

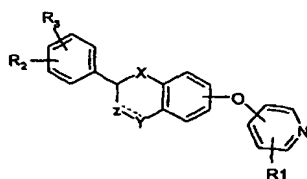
(72) Inventors; and

(75) Inventors/Applicants (for US only): OTSOMAA, Leena

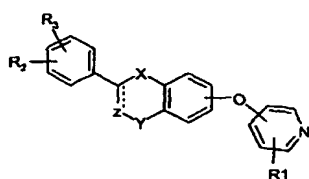
[FI/FI]; Kääntöpiiri 2 A 15, FIN-02210 Espoo (FI).
KOSKELAINEN, Tuula [FI/FI]; Hakajaakopinkuja 5,
FIN-08500 Lohja as (FI). KARJALAINEN, Arto [FI/FI];
Alberganesplanadi 11 A 13, FIN-02600 Espoo (FI).
RASKU, Sirpa [FI/FI]; Halsuantie 3 A 10, FIN-00420
Helsinki (FI). POLLESELLO, Piero [IT/FI]; Mariavägen
1 A, FIN-02700 Grankulla (FI). LEVIJOKI, Jouko
[FI/FI]; Airotie 5 A, FIN-00830 Helsinki (FI).(74) Agent: ORION CORPORATION; Orion Pharma, Legal
Affairs and Intellectual Property Rights, P.O.Box 65, FIN-
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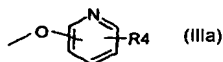
(54) Title: PYRIDINE DERIVATIVES USEFUL FOR INHIBITING SODIUM/CALCIUM EXCHANGE SYSTEM



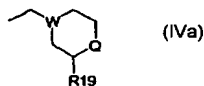
(I)



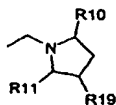
(II)



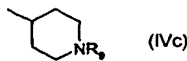
(IIIa)



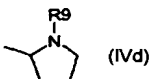
(IVa)



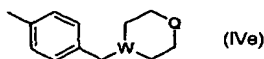
(IVb)



(IVc)



(IVd)



(IVe)

(57) Abstract: Therapeutically active compounds of formula (I) or (II) wherein X is -O-, -CH₂- or -C(O)-; Z is -CHR₁₂- or a valence bond; Y is -CH₂-, -C(O)-, CH(OR₁₃)-, -O-, -S-; provided that in case Z is a valence bond, Y is not C(O); the dashed line representing an optional double bond in which case Z is -CR₁₂- and Y is -CH₂-, -C(O)- or -CH(OR₁₀)- (in formula II) or -CH- (in formula I); R₂ and R₃ are independently H, lower alkyl, lower alkoxy, -NO₂, halogen, -CF₃, -OH, benzyloxy or a group of formula (IIIa). R₁ is H, CN, halogen, -CONH₂, -COOR₁₅, CH₂NR₁₅R₁₈, NHC(O)R₅, NHCH₂R₅, NHR₂₀, NR₂₁R₂₂, NHC(NH)NHCH₃ or, in case the compound is of formula (II) wherein the optional double bond exists or in case R₂ or R₃ is benzyloxy or a group of formula (IIIa) or in case the pyridine ring of formula (I) or (II) is attached to the oxygen atom in 3-, 4- or 5-position, R₁ can also be -NO₂ or NR₁₆R₁₇; R₄

is H, -NO₂, CN, halogen, -CONH₂, -COOR₁₅, -CH₂NR₁₅R₁₈, -NR₁₆R₁₇, NHC(O)R₅ or -NHC(NH)NHCH₃; R₅ is alkyl substituted with 1-3 substituents selected from the group consisting of halogen, amino and hydroxy, or carboxyalkyl, in which the alkyl portion is optionally substituted with 1-3 substituents selected from the group consisting of halogen, amino and hydroxyl, -CHR₆NR₈ or one of the following groups: formula (IVa), (IVb), (IVc), (IVd), (IVe), and pharmaceutically acceptable salts and esters thereof. The compounds are potent inhibitors of Na⁺/Ca²⁺ exchange mechanism.



TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

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